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10/582,438	06/09/2006	Jean-Marie Bernard	1022702-000306	1140
21839	7590	12/01/2009		
BUCHANAN, INGERSOLL & ROONEY PC			EXAMINER	
POST OFFICE BOX 1404			GILLESPIE, BENJAMIN	
ALEXANDRIA, VA 22313-1404				
		ART UNIT	PAPER NUMBER	
		1796		
		NOTIFICATION DATE	DELIVERY MODE	
		12/01/2009	ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

Office Action Summary

Application No.

10/582,438

Applicant(s)

BERNARD ET AL.

Examiner

BENJAMIN J. GILLESPIE

Art Unit

1796

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29-55 is/are pending in the application.
- 4a) Of the above claim(s) 29-48 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 49-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/22)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 5/7/2009

Election/Restrictions

1. Claims 29-48 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 7/22/2009.
2. Applicants argue that the restriction requirement issued on 6/22/2009 was premature since the examiner had not even searched the application to see if both inventions I and II would be a serious burden to examine at once. Applicants also argue that inventions I and II should not be subject to restriction because they are "substantially coextensive."
3. In response, search burden is not a criterion in lack of unity analysis. As set forth in the restriction requirement of 6/22/2009, the issue being addressed by the restriction requirement is whether or not there are any special tech features, which has been addressed in paragraphs 5-9 of the restriction mailed 6/22/2009. See MPEP 1850 (I). Since the examiner has demonstrated that there are no special technical features – and therefore there is lack of unity – the restriction is proper.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 49-55** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. **Regarding claim 49, 52, 53, 54, 55:** These claims contain a narrow numerical range that falls within a broader range in the same claim – this renders the claim indefinite. Description of

examples and preferences is properly set forth in the *specification* rather than in a single claim. A narrower range or preferred embodiment may also be set forth in another independent claim or in a dependent claim. If stated in a single claim, examples and preferences lead to confusion over the intended scope of the claim. In those instances where it is not clear whether the claimed narrower range is a limitation, a rejection under 35 U.S.C. 112, second paragraph should be made. See MPEP 2173.05(c).

6. **Regarding claim 50 and 51:** The percentages: “at least 1%” and “at least 2%” have not been given any basis – i.e. weight %, equivalent %. Clarification is required.
7. **Regarding claim 54:** The language “the monoacylureas” lack antecedent basis. It is noted that claim 50 lists a “monoacylurea” however, claim 54 depends off of claim 49, not claim 50.

Claim Rejections - 35 USC § 102

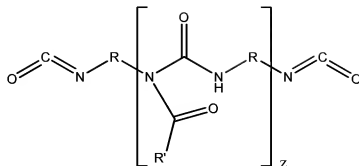
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

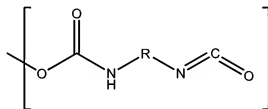
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Anticipation Rejection I

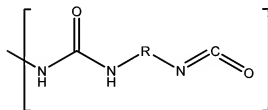
8. **Claims 49-50, 52 and 53** are rejected under 35 U.S.C. 102(b) as being anticipated by Wagner et al (U.S. Patent 3,517,039).
9. **Regarding claim 49:** Wagner et al teach isocyanate-functional acylureas having the structure:



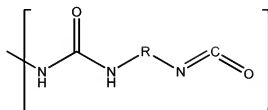
10. Wherein R' is either:



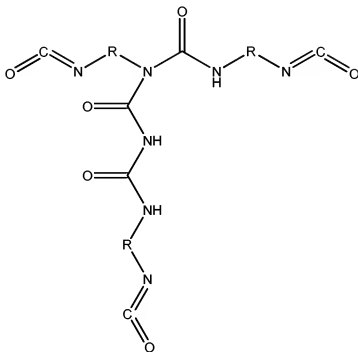
OR



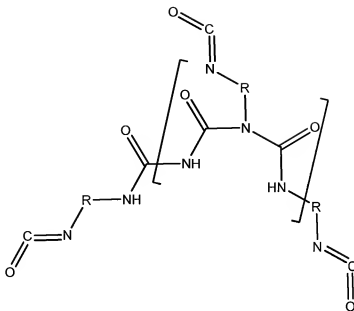
11. The variable R is residue from an aliphatic diisocyanate and the variable $z = 1$. The resulting compound would contain greater than 1% by weight of acylurea and when $z = 1$, the compound contains three diamino units (Col 2 lines 9-34).
12. **Regarding claim 50:** When $z = 1$, there is only one acylurea group - i.e. at least 1% monoacylurea.
13. **Regarding claim 52 and 53:** Wagner et al teach that when $z = 1$, and R' is:



14. The resulting compound would have the structure:



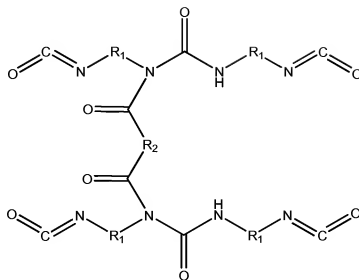
15. This structure contains a single biuret group – the biuret group is better identified below:



16. Wherein R is the residue of hexamethylene diisocyanate (HDI) – this compound has a MW of the resulting compound has a mol of about 521 g/mol, wherein the biuret group in the parentheses has a molecular weight of about 226 g/mol. This results in a biuret content of about 43 wt% - which coincides with the claimed range of 10 - 80 wt%.

Anticipation Rejection II

17. **Claims 49-51** are rejected under 35 U.S.C. 102(b) as being anticipated by Gurtler et al (PG Pub 2002/0123596).
18. **Regarding claim 49:** Gurtler et al teach tetra-isocyanate functional acylureas that are the reaction product of hexamethylene diisocyanate (HDI) and dicarboxylic acid - which would yield the compound:



19. Wherein R₁ is the diamino group (residue from HDI) and R₂ is the residue from the dicarboxylic acid (Example 1). Regarding the claimed amount of acylurea - using HDI for R₁ and azelaic acid for R₂, the compound above would have a MW of ~773 g/mol. Since there are two acylurea groups – each having a MW of 85 – the acylurea content is about 22 wt%.

$$(2 \times 85) = 170; 170/773 = 0.2199$$

20. **Regarding claim 50:** The acylurea may also be produced using monocarboxylic acids – which would yield a compound analogous to that discussed in paragraph 9 of the instant rejection – i.e. monoacylurea (Gurtler et al; paragraph [0023]).

21. **Regarding claim 51:** The acylurea content is greater than 2 wt% and is based on dicarboxylic acid.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

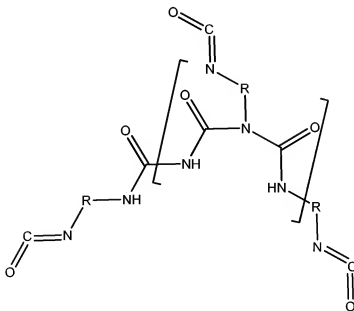
having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Obviousness Rejection I

23. **Claims 54 and 55** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner et al ('039).

24. **Regarding claims 54 and 55:** As discussed in paragraphs 9-16, Gurtler et al teach acylureas, having the structure:



25. Wherein the brackets repeat unit can between one and five times – Gurtler et al teaches compounds having (i) 3 diamino groups and (ii) 7 diamino groups. These acylureas are later reacted with polyhydroxyl binders to produce polyurethane coatings (Col 6 lines 1-15).

Although Gurtler et al fail to teach an amount of a (i) and (ii) – one of ordinary skill would understand that said amount controls the degree of branching within the final polyurethane and therefore the hardness of the resulting coating – i.e. they are result effective variables.

Therefore, it would have been obvious to arrive at the limitations of claims 54 and 55 since it has been held that finding an optimum value of a result effective variable only involves routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Conclusion

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. U.S Patent 4,517,353
- b. U.S. Patent 3,383,400
- c. U.S. Patent 4,124,569

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN J. GILLESPIE whose telephone number is (571)272-2472. The examiner can normally be reached on 8am-5:30pm.

28. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

29. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Benjamin J Gillespie/
Examiner, Art Unit 1796

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796